

MADE FROM THE LONG, STRONG FIBERS OF DOUGLAS FIR

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# Simpson

QUALITY SINCE 1895

## INSULATING BOARD PRODUCTS

INSULATING BUILDING BOARD

INSULATING DECORATIVE PLANK

INSULATING DECORATIVE TILEBOARD

INSULATING LATH

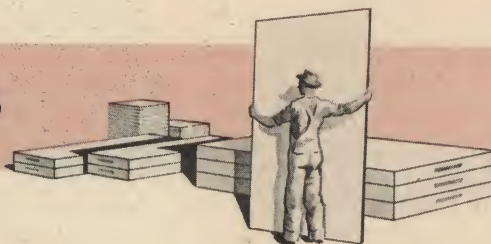


# Specify and Use

# Simpson

QUALITY SINCE 1895

## INSULATING BOARD PRODUCTS



### DESCRIPTION

Simpson Insulating Board is a rigid structural insulating board without knots or grain manufactured from long, tough Douglas fir fibers. The Douglas fir fibers produce an insulating board which combines unusual heat and sound insulating properties with exceptional strength and bracing properties. A new manufacturing process was developed for this product, employing latest type machinery and new automatic controls to insure a high degree of uniformity and quality. The new plant is staffed with expert insulation board experts and highly skilled technicians.

Source of the Douglas fir fiber is the 250,000 acre Simpson sustained yield managed timber lands, located in the heart of the rugged Olympic Mountains in the northwest corner of the State of Washington. Having an average rainfall of 60 to 150 inches a year, the area has a prodigious capacity for growing Douglas fir trees, producing an extremely long and tough fiber not duplicated in any other area. Simpson is assured of an ample supply of raw material for Insulating Board products.

The outstanding characteristics of Douglas fir fiber as a base for insulating board products were discovered in the Research Laboratory of the Simpson Logging Company, Shelton, Washington . . . a leader in forest products since 1895. The process of manufacturing these insulating

board products was developed and perfected by the Wood-fiber Division. A modern plant has been constructed at Shelton and only selected wood chips are used in manufacturing these insulating board products. The process is a relatively simple one, yet it is exacting so as to produce a product of high uniformity. The wood is carefully sorted and all bark and rot are removed before chipping. The chips are defibered, or ground, under closely controlled conditions so that the required fiber length is obtained. The "pulp" or defibered wood, is then pumped through screens and chests, where the waterproofing and other chemicals are carefully added, until finally it arrives at a traveling wire, where a sheet of wet pulp of definite weight and thickness is formed.

In the subsequent felting process, the fibers are formed into large coherent boards. The final steps are the drying and removal of the water and the cutting and trimming of the board to the finished sizes. During the manufacturing process, the fibers are specially treated to render the board resistant to termite attack, fungus growth and dry rot. Simpson Insulating Building Board is finished on one surface in an attractive oyster white whereas the Decorative Tileboard and Plank are similarly finished on one surface in a gardenia white. Certain products are also additionally fabricated, such as with special joints.

### MARKETING

Simpson Insulating Board products are distributed exclusively through lumber and building supply dealers, through a straight line sales policy. Distributors, strategically located, serve dealers in a wide area.

The Woodfiber Division of the Simpson Logging Company maintains an Architect's Field Service in connection with its Sales Division Office, 1010 White Building, Seattle 1, Washington.

### PHYSICAL PROPERTIES

As previously mentioned, the outstanding characteristic of Simpson Insulating Board products is that they combine structural strength with insulating value. This combination of characteristics is important in at least two respects, first, because insulating board may be used

where it serves both as a structural material and an insulation, and second, the structural qualities tend to perpetuate the insulating value because the insulating board is not readily compressed or otherwise damaged.

### THERMAL CONDUCTIVITY

Because of the millions of entrapped air voids within the fibers as well as the interstices between the fibers, Simpson Insulating Board products have excellent insulating properties. The insulating value of a material is measured by its thermal conductivity, the lower the conductivity the better the insulating value. Tests conducted

at the University of Minnesota and the University of California show the average thermal conductivity of Simpson Insulating Board to vary from 0.33 to 0.36 Btu per hour per square foot per degree Fahrenheit per inch thickness, depending on the density of the several types of products.



## STRUCTURAL STRENGTH

The natural interlacing and weaving of the fibers and their subsequent drying knits them firmly together and forms a grainless board of high tensile strength and stiffness. Tests conducted by R. W. Hunt Co., Chicago, show

the transverse and tensile strengths of Simpson Insulating Board products to exceed the limits prescribed in U. S. Commercial Standard CS 42-43, Federal Specification LLL-F-321b and ASTM standards.

## FUEL SAVING

Inasmuch as Simpson Insulating Board is an efficient thermal insulation it reduces the heat loss of a building and thereby saves fuel. This fuel saving soon pays for the insulating board. In some cases, the Simpson Insulating Board actually costs little or no more than the material it replaces as, for example, where it is used in place of

other materials as an interior wall finish or exterior wall sheathing. The insulation value is thus obtained without any initial cost. As Simpson Insulating Board reduces the heat loss of a building, it may permit the use of a smaller heating plant, which is a further economic advantage of this material.

## KEEPS OUT SUMMER HEAT

Simpson Insulating Board effectively retards the penetration of summer heat and thereby provides cooler interiors during warm weather. The added summer comfort

is an extra benefit which has immeasurable value, although it cannot actually be measured in dollars and cents.

## TERMITE PROTECTED

decay  
termite **Protected**  
WITH  
PENTACHLOROPHENOL

The fibers of all Simpson Insulating Board Products are treated with Pentachlorophenol which not only protects against termites, dry rot and decay, but against mold and mildew as well. Al-

though more costly than other chemicals commonly used, Penta was selected as the best and most advanced chemical for better preservative protection. As used, it is

odorless and harmless to humans and animals. Below ground exposure tests of Simpson Insulating Building Board treated with Pentachlorophenol were conducted at Jacksonville, Florida, by an independent laboratory. Climatic conditions there favor termite attack and rot — conditions many times more severe than insulating board is exposed to in normal use. Inspection of test samples after ten months showed the samples perfectly sound.



## Simpson Insulating Board Products

NAME OF PRODUCT	SIZES	THICKNESSES	EDGES	SURFACE FINISH
SIMPSON INSULATING BUILDING BOARD	4'x7', 4'x8', 4'x9', 4'x10', 4'x12'	1/2"	Square	Oyster white*
SIMPSON INSULATING DECORATIVE TILEBOARD	16"x16" 16"x32"	1/2"	Beveled with T & G Joint	Gardenia white*
SIMPSON INSULATING DECORATIVE PLANK	Widths: 8", 10", 12", 16" Lengths: 8 ft., 10 ft.	1/2"	Short Edges: square Long Edges: beveled with T & G Joint	Gardenia white*
SIMPSON INSULATING LATH	18"x48"	1/2", 1"	Short Edges: square Long Edges: V-Joint	Natural
SIMPSON ROOF INSULATION	24"x48"	1/2", 1" 1 1/2", 2"	Square	Natural

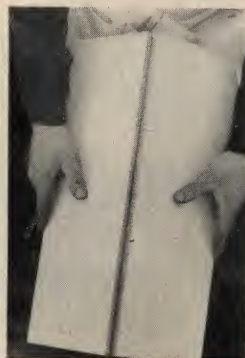
\* Reverse side, natural color of board.



## Greater Workability on the Job

Simpson Insulating Building Board has better workability on the job. It cuts easier, smoother and cleaner—saving time on the job and permitting better joints and all around better workmanship. Thus, Simpson Insulating Building Board gives a plus value at no increase in cost to the builder.

Note Clean-cut Edges



Simpson Insulating Board products are manufactured in a large, modern plant at Shelton, Washington.



## INSULATING BUILDING BOARD

Simpson Insulating Building Board is a general purpose product which is produced in four foot widths and in various lengths. Edges are plain and square. The thickness is  $\frac{1}{2}$ ". One side is finished in an attractive oyster white and the reverse side is the natural color of the board.

Simpson Insulating Building Board provides a beautiful interior finish when applied to walls and ceilings. If desired, the boards may be stained, painted, stenciled or carved with excellent results. The edges of the board may be beveled with a simple cutting tool to form a pleasing V-joint. Other interesting designs may be obtained by cutting additional grooves.

Simpson Insulating Building Board is ideal for constructing partitions of all kinds, either permanent or temporary. When placed between rough and finish flooring, it provides heat and sound insulation.

Simpson Insulating Building Board may be used as a wall sheathing in conjunction with any type of exterior finish and, in addition to performing all the functions of other types of sheathing, it provides efficient insulation against extremes of heat and cold. This product performs



*Simpson Insulating Building Board on Ceiling of a Municipal Airport Dining Room.*

four services when used for sheathing. It builds, braces, insulates, and virtually stops wind infiltration through the wall. Furthermore, a wall sheathed with this product possesses greater bracing and stiffening properties than a wall sheathed with narrow units applied horizontally. Tests conducted at the Forest Products Laboratory, Madison, Wisconsin, showed that a wall sheathed with insulating board sheathing has a rigidity factor of 3.0 compared to a factor of 1.0 for horizontal wood sheathing.

Because it comes in large easy-to-handle units, Simpson Insulating Building Board can be applied quicker and with less waste than ordinary wood shiplap or tongue and groove sheathing. The cost of the completed job, therefore, is usually less than if ordinary sheathing is used.

The combined structural and insulating properties of Simpson Insulating Building Board are particularly valuable where farm structures are involved. Consequently there are many farm uses for this product such as poultry and brooder houses, dairy barns, hog houses, fruit and vegetable storages and many other types of farm structures.

## INSULATING DECORATIVE TILEBOARD

Simpson Insulating Decorative Tileboard is used almost exclusively on ceilings, although this product is also used to a limited extent on interior walls above the wainscoting, dado, or chair rail. The tileboard has interlocking tongue and groove joints so that adjoining units fit together firmly and smoothly. The exposed surface is finished in a pleasing gardenia white.

Simpson Insulating Decorative Tileboard is frequently used on ceilings in combination with a wall treatment of Building Board



*Simpson Insulating Decorative Tileboard on ceiling and portion of wall of a gymnasium.*



*Simpson Insulating Decorative Tileboard on Ceiling of a Recreation Room.*

and/or Simpson Insulating Decorative Plank so that many attractive designs are possible. One of the principal advantages of Simpson Insulating Decorative Tileboard is that it can be applied without the use of special clips.





## INSULATING DECORATIVE PLANK



Simpson Insulating Decorative Plank on Walls of Reception Room in a Manufacturing Plant. Decorative Tileboard on Ceiling.

Simpson Insulating Decorative Plank are long, narrow units which are available in various widths and lengths. The surface to be exposed is finished in gardenia white. The long edges are beveled and also have a special interlocking tongue and groove joint similar to that of the Tileboard so that they fit smoothly together for greater rigidity when applied in place.

Simpson Insulating Decorative Plank may be applied either vertically or horizontally to make walls and ceilings of charm and distinction. Varying the width or tinting with various colors permit a wide range of decorative design. The Plank has the same insulating value and strength as other Simpson Insulating Board products and therefore effectively reduces fuel consumption and increases comfort.



## INSULATING LATH

Simpson Insulating Lath is a better plaster base and an efficient insulation in one material. It provides a smooth, beautiful wall free from lath marks. The units are 18" wide by 4 feet long and the thicknesses are 1/2" and 1".

Simpson Insulating Lath is manufactured with interlocking long edges. The plaster bond between Simpson Insulating Lath and plaster averages about 1,000 pounds per square foot. As the plaster load of a ceiling amounts to only about five pounds per square foot, there is a factor of safety of about 200. The plaster goes on easier and there is a consequent saving in material and labor.

Simpson Insulating Lath is easily cut and fitted. It can be quickly nailed to studs, joists or furring strips and is then ready to receive the plaster. Where the exterior is solid masonry, Simpson Insulating Lath may be applied to the inside surface over furring strips.

The use of Simpson Insulating Lath on the inside of studs and Simpson Insulating Building Board on the outside provides a well insulated wall of sufficient heat resistance for practically any climate or type of fuel. This construction also provides a valuable breathing space between studs.



Simpson Insulating Lath Provides Insulation and Results in a Smooth, Beautiful Wall Free from Lath Marks

## VAPOR BARRIERS

The use of adequate vapor barriers in exposed walls, ceilings and roofs, in conjunction with Simpson Insulating Board products is recommended in cold climates — that is, where the average January temperature is below 35° F. In general, any sheet which has a continuous coating of water-resistant material, such as wax or bitumen, such continuity being assured by a glossy surface and sufficient thickness, is likely to have sufficient vapor resistance. Vapor barrier shall be installed as near the warm side of the construction as possible, such as on the inside face of studs or the under side of ceiling joists. Either the sheet type or paint type may be used. Many oil base paints are good liquid or paint type vapor barriers and may be applied to the inside surface of the wall or ceiling as a decorative finish. Usually at least two or three coats of this type of paint are required to provide adequate vapor resistance. Aluminum and asphalt base paints are also good vapor barriers. Water paints generally are not vapor barriers.



# Specification A

## Application of Simpson Insulating Building Board as Interior Finish

*In unusually dry or humid climates, remove board from packages 24 hours before it is to be applied and stack singly around the room to allow adjustment to atmospheric conditions.*

1. **Framing.** shall be erected as in ordinary frame construction on 12 or 16 inch centers. Headers shall be cut in between framing members at the ends of the insulating board to provide a nailing base. Insulating board shall, where possible, be of sufficient length to span between sills and plates or other structural members. Headers are also recommended in back of chair rails and all other heavy mouldings.

2. **Nails.** Where nailing is to be exposed, cadmium plated or galvanized insulating board nails are recommended. If these are not obtainable, cleaned and polished 1 1/4 in. finishing nails or brads may be substituted. Where nails are to be covered with panel strips or mouldings, use 1 1/2 inch common, box or galvanized nails.

3. **Cutting.** All cutting shall be done in a workmanlike manner. Where joints are to be covered with battens or mouldings, board may be cut with a sharp fine-tooth saw, using rapid strokes and a minimum of pressure. Where joints are to be exposed and cutting is required, cut with a sharp linoleum knife against a straight edge, or with a Stanley Fiber Board Plane or with a Bevil Devil.

### 4. Beveling and Grooving

4a. **Tools.** By means of the Stanley Fiber Board Plane and other special tools which have been developed for the purpose, the large boards may be beveled, grooved or hand carved. The Stanley Fiber Board Plane is similar to a carpenter's plane and utilizes tool steel blades which may be used indefinitely if properly honed. This tool has adjustments for varying width and depth of cuts, and spacing of grooves. A supplementary tool or knife is used for free hand carving where the beveling and grooving tool would be unwieldy.

4b. **Designs.** The operations possible with these tools include square and beveled edges, V-grooves of various widths, diagonal grooves edge to edge, edge to groove or groove to groove, and inside grooves "faded" by gradually lowering and raising tool. Overlays and perfect circles can be obtained as well as freehand curves and sweeps; also V-grooves in fluted designs and miter and slip joints.

4c. **Relief Carving.** Artistic decorative effects may be produced by carving the surface of Simpson Insulating Building Board, particularly in the case of large relief carving where detail is not required. A design is first laid out in pencil, and razor blades or a sharp knife are then used to carve the insulating board.

4d. Where the surface of the boards are to be beveled, grooved or carved, this work shall be done before the boards are applied.

5. **Joints.** Do not attempt to obtain a finished job by butting edges of board together without some form of joint treatment such as beveled edges or covering joints with mouldings. The edges may be beveled with the Stanley Fiber Board Plane, or a Bevil Devil. Bevel should extend to a depth of one-half the thickness of the board, thus obtaining a beveled-butt joint. If the beveled edge is not desired, the joints may be covered with either wood or metal mouldings.

6. **Application of Insulating Board.** If joints are to be exposed, bring adjoining insulating boards into moderate contact, BUT DO NOT FORCE INTO PLACE. Where finishing nails or brads are used, nails shall be driven at a slight angle, setting heads of nails with nail set, and the slope alternated from nail to nail.

If joints are to be covered with mouldings or batten strips, leave a 1/16" to 1/8" space between adjoining boards.

Nail to intermediate framing members first, spacing nails 6" apart and then along the edges, spacing nails 3" apart and 3/4" from edges.

7. **Mouldings.** Where joints are to be covered with battens or mouldings, nails for attaching battens or mouldings should be of sufficient length to penetrate at least 1 inch into framing members.

8. **Painting and Decorating.** Simpson Insulating Building Board may be left in the natural factory applied finish or may be painted, enameled or otherwise decorated. For information on this subject, see specification B.

# Specification B

## Application of Paints and Wall Coverings to Simpson Insulating Building Board

1. **Application of Insulating Board.** The insulating board shall be applied in accordance with Specification A. Common, box or galvanized nails should be used only where nail heads are to be covered with battens or mouldings.

2. **Calcimines, Casein and Water Paints.** Calcimines and water paints may be applied directly to the factory-finished surface of Simpson Insulating Building Board although calcimines may also be applied to varnish-sized surfaces to facilitate removal by washing. A single coat of a good casein paint will usually give good coverage on Simpson Insulating Building Board.

3. **Stain.** Stains may be used where the natural unpainted surface (that is, the reverse side) of the board is to be modified without destroying the texture and where its sound absorbing properties are of importance.

3a. **Glue Stains.** Glue stains usually give the best results on Simpson Insulating Building Board. A satisfactory glue stain may be made by dissolving 1/2 pound of flake or ground glue in a gallon of boiling water. After the glue has been thoroughly dissolved, dry color is added in amounts depending on the depth of tone required. The dry colors are best added by mixing them



with a small amount of water, stirring to a thin paste which is more easily taken up by the glue solution. Glue stains of this type must be used promptly after preparation. They should, if possible, be applied while they are still warm.

3b. **Alcohol Stains.** Alcohol stains are not recommended as they dry too rapidly, leaving brush marks.

4. **Oil or Varnish Paints.** The factory-finished surface of the Simpson Insulating Building Board need not be sized if oil or varnish paints are to be applied thereto. The natural unpainted surface should, however, be properly sized before application of oil or varnish stains.

4a. **Size.** The size used should be that recommended by the paint manufacturer.

4b. **Application of Paint.** The best results are obtained if the surface is sanded lightly after the size coat has dried thor-

oughly. The paint may be applied to the surface thus prepared using the desired number of coats for satisfactory results.

5. **Plastic Paints and Wall Coverings.** Write for special instructions dealing with the use of Simpson Insulating Building Board as a base for plastic paints and wall coverings such as linoleum and wall paper.

6. **Stencil Decorations.** Where a light touch of color is desired or where a means of accentuating a design is sought, stencils are recommended. Border stencils are particularly attractive on Simpson Insulating Building Board interiors. Stencil designs may be cut in oil paper or metal. They are held in position by hand or by thumb tacks while the color is applied with a stiff stencil brush. Colors ground in Japan are recommended. The Japan color paint should be thinned to the desired consistency with a mixture of six parts turpentine, three parts linseed oil and one part Japan drier.

## Specification C

### Application of Simpson Insulating Building Board as Wall Sheathing

1. **Framing.** Studs shall be erected as in ordinary frame construction on 12 or 16 inch centers and 2x4 leaders inserted between framing members at the ends of insulating boards to serve as a nailing base.

2. **Nails.** Use 1½ inch galvanized roofing nails with 7/16 inch heads with ½ inch Simpson Insulating Building Board (Sheathing).

3. **Application of Insulating Board (Sheathing.)** Apply the board vertically to all framing members with ample bearing for nailing along all edges. Nail to intermediate framing members first, spacing nails 6 inches apart; and then along the edges spacing nails 3 inches apart and ¾ inch from the edge. Drive nails until the heads are flush with the surface of the insulating board. Leave a ⅛ inch space between adjoining boards and at ends of boards.

4. **Flashing.** Flash windows, doors and other openings with strips of metal or prepared roofing.

5. **Application of Exterior Finish over Insulating Board.**

5a. **Wood Siding.** Wood siding may be applied directly over

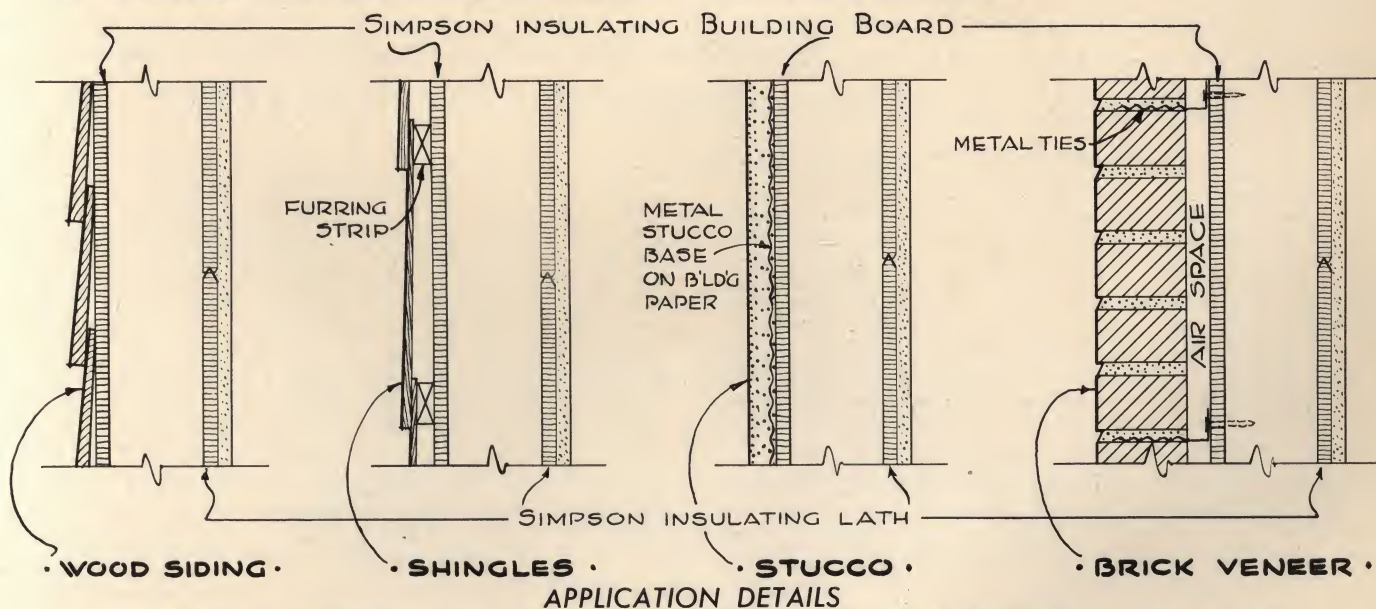
the insulating board, nailing through to the studs. Siding boards shall butt over studs, nailing through to studs.

5b. **Shingles.** Where shingles are to be used, nail 1x2-inch furring strips\* horizontally over the insulating board to studs, spacing to fit shingles. Nail shingles to furring strips in accordance with manufacturer's specifications.

\*NOTE: Special proprietary devices are available for attaching shingles directly to insulating board without use of furring strips.

5c. **Brick or Stone Veneer.** For brick or stone veneer, properly space anchors and nail through the insulating board into the studs or plates. *Do not nail between studs.* Lay brick or stone in the usual manner. Allow not less than ½-inch space between the insulating board and the brick or stone.

5d. **Stucco.** If stucco is to be used as exterior finish apply a layer of asphalt saturated waterproof paper over the surfaces of the insulating board. Then apply an approved metal stucco base, nailing through to studs. No stucco shall be applied to insulating board. Stucco shall be applied in accordance with stucco manufacturer's specifications.



APPLICATION DETAILS  
FOR SIMPSON INSULATING BUILDING BOARD (Used for Sheathing) AND ½" SIMPSON INSULATING LATH



# Specification D

## Application of Simpson Insulating Lath

1. **Framing or Furring.** The studs, joists or rafters shall be erected as in ordinary frame construction on 12 or 16 inch centers. For exterior masonry walls install 1x2 furring strips vertically on 12 or 16 inch centers and shim to a true level plane.

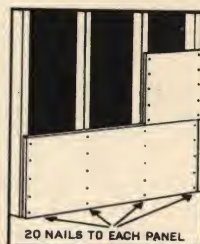
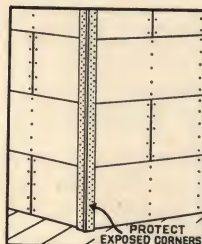
2. **Nails.** Blued plasterboard nails with 5/16 inch heads are recommended for applying Simpson Insulating Lath. Use 1 1/4 inch nails for 1/2 inch lath and 1 3/4 inch nails for 1 inch lath.

3. **Application of Lath.** Do not moisten lath prior to, during, or after application. Lath shall be applied with long edges at right angles to the framing or furring strips. Interlocking long edges shall fit together firmly and smoothly. Center all end joints on framing and stagger the vertical joints or end of each course of lath with the joints of the preceding course. Nail lath securely to framing, using five nails at each stud or nailing member; that is, twenty nails for each lath when framing is on 16 inch centers. Use strips of Simpson Insulating Lath where piecing out is necessary; do not fill out with wood lath or wood strips. To cover arches, curves and sweeps, first nail lath at the end, holding it to the required contour and then nail to each successive stud, joist or furring strip.

4. **Reinforcing Corners and Angles.** All outside corners shall be reinforced with metal corner beads. Reinforce all re-entrant angles with standard expanded metal lath strips 6 inches wide bent into the angle and secured in place by nailing. All metal lath reinforcing shall be nailed through Simpson Insulating Lath into framing. Use 6 inch strips of expanded metal lath to reinforce all joints between frame and masonry construction.

### 5. Plastering on Simpson Insulating Lath.

5a. **Type and Consistency of Plaster.** Standard gypsum cement plaster or gypsum wood fiber plaster containing no lime shall be used for scratch and brown coats. Both coats shall be mixed to a wet consistency to allow for application with light



trowel pressure and to facilitate darbying. The plaster, especially for the scratch coat, should have a setting time of not more than 2 to 3 hours. Any standard plaster finish may be used over the brown coat such as gypsum, lime, or lime gauged with gypsum.

5b. **Application of Plaster.** The plaster shall be applied in three coats to full 1/2 inch grounds. Wherever necessary and particularly on ceilings, provide plaster screeds to insure an even, uniform full 1/2 inch plaster thickness. Rod and trowel surface to a true plane. All corners and angles shall be plumb and true and darby strokes shall be in the direction of the framing members, with the darby spanning two or more studs or joists.

5c. **Ventilation and Heat.** Provide adequate ventilation for proper drying of the plaster. Proper ventilation is necessary in winter as well as in summer. Adequate heat shall be provided in winter to prevent injury to fresh plaster by frost.

# Specification E

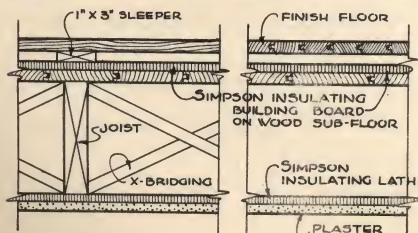
## Insulating Frame Construction Floors with Simpson Insulating Building Board

1. The simplest method of insulating intermediate frame construction floors with Simpson Insulating Building Board is to apply a layer of the board between the joists and the rough floor. The board should be applied over the joists with edges in moderate contact, nailing sufficiently to hold in place while the sub-floor is being laid. The rough or sub-flooring should be face-nailed into the joists. Nail the finish floor to the sub-floor in the usual manner.

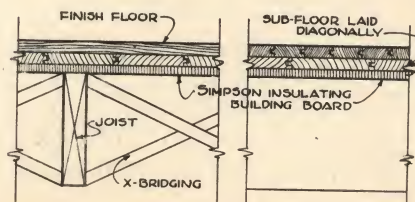
2. **Floating Floor Construction.** Where a greater degree of sound insulation is desired, the floating floor construction is recommended. This consists of applying a layer of Simpson Insulating Building Board directly upon the rough flooring, followed by

1x3 sleepers on 16-inch centers to receive the finish flooring. The sleepers shall be securely nailed through to sub-floor.

3. **Attic Floors.** Apply a layer of Simpson Insulating Building Board directly to attic floor joists, extending to the side walls or eaves to prevent air leakage at this point. If the eaves are not tight, the joist space between the insulating board and the ceiling below should be blocked off at the ends to prevent air leakage into this space. Lay wood floor over the insulating board in portions of the attic to be used for storage or living purposes, nailing through to joists. If the attic is already covered with rough flooring, nail insulating board directly to the existing floor.



**FLOATING FLOOR CONSTRUCTION**



**SIMPSON INSULATING BUILDING BOARD APPLIED BETWEEN JOISTS AND SUB-FLOOR**



# Specification F

## Insulating Masonry Construction Floors with Simpson Insulating Building Board

**NOTE:** Any smooth, dry concrete or other masonry floor may be insulated with Simpson Insulating Building Board. For this purpose, the most convenient size is 2x4 ft. which may be obtained by cutting from the larger sizes with a Bevil Devil, or a fine-toothed saw. Simpson Roof Insulation, size 2x4 ft., may also be used for this purpose.

**1. Waterproofing or Dampproofing Course.** Damp basement floors or floors subjected to hydrostatic pressures, shall be waterproofed by means of a membrane waterproofing course, consisting of saturated roofing felt embedded in hot asphalt or pitch.

**2. Adhesive.** The Simpson Insulating Building Board shall be cemented to the masonry floor or to the waterproofing course by embedding in either hot asphalt or cold asphalt mastic. Asphalt emulsions are not recommended for this purpose. Where hot asphalt is used, concrete shall first be primed with an asphalt cutback.

**2a. Application with Cold Plastic Cement.** Where asphalt is used, trowel mastic directly onto masonry floor to a thickness of 1/16 to 1/8 inch as required to present a plane surface, and embed insulating board therein.

**3. Application of Insulating Board.** The Simpson Insulating Building Board shall be spaced approximately 1/16 inch apart and shall be rolled or "stepped down" to insure intimate contact and proper bond. If a second layer of insulating board is to be applied, this second layer shall be properly cemented to the first layer with a liberal coating of the adhesive used, the joints of the second layer being offset with respect to first layer.

### 4. Finish Flooring.

**4a. Wood Block Flooring (Parquet).** This type of flooring shall be applied in the customary manner as recommended by the flooring manufacturer. While hot asphalt may be used, a mastic is considered preferable. Asphalt emulsion shall not be used.

**4b. Wood Flooring (Strip).** A layer of insulating board shall be nailed to 2x3 sleepers embedded in the concrete on 48-inch centers. If the sleepers are not laid flush with the surface of the concrete slab, the space between sleepers and flush with the surface thereof should be filled with cinder or gravel concrete before application of the insulating board. Install 1x3 furring strips across the sleepers on 12 or 16 inch centers and nail through the insulating board to the sleepers. The finish floor shall then be applied to the sleepers in the usual manner. Where floor load necessitates rough flooring, apply insulating board in accordance with Specification D, paragraph 1 for Frame Construction Floors.

**4c. Masonry Type Finish Floors.** Where the finish floor is to be of any masonry type, apply over the insulating board a flood coat of hot asphalt, or 1/16 to 1/8 inch of asphalt mastic or a membrane waterproofing course firmly bonded to the insulating board by means of a continuous mopping of asphalt. Apply granolithic cement or monolithic concrete directly over the surface thus prepared in accordance with flooring manufacturers' specifications. Unit flooring such as ceramic or quarry tile or slate should be applied over the surface thus prepared in a bed of cement in accordance with conventional practice.

# Specification G

## Insulating Pitched Roofs with Simpson Insulating Building Board

**NOTE:** Pitched roofs may be insulated by applying Simpson Insulating Building Board either to the *underside* of the roof rafters or directly *over* the roof rafters. If the insulating board is to be applied to *underside* of rafters, refer to Specification A. The paragraphs immediately following refer to the application of the insulating board *over* or on top of the roof rafters.

**1. Nails.** Either 1½-inch (4d) common or 1½-inch galvanized roofing nails may be used for applying the insulating board.

**2. Application of Insulating Board.** The insulating board shall be applied lengthwise and directly to all framing members with ample bearing for nailing along all edges. Nail to intermediate framing members first, spacing nails 6 inches apart and then along all edges, spacing nails 3 inches apart and 3/8 inch from edges.

### 3. Application of Roofing

**NOTE:** Where insulating board is used on pitched roofs it is necessary to apply either wood strips or solid wood sheathing (de-

pending on the type of roofing to be used) over the insulating board to receive the roofing as directed in the following paragraphs, 3a and 3b.

**3a. Shingles, Slate or Other Rigid Roofing.** Wood strips (roofers) to which the roofing is to be secured shall be applied directly over the insulating board, driving nails through insulating board and penetrating rafters at least 1". Apply roofing to the wood strips in accordance with roofing manufacturers' specifications.

**3b. Asphalt Shingles, Roll Roofing, Metal or other Non-Rigid Roofing.** For these and other types of flexible or non-rigid roofing apply wood sheathing over the insulating board in the customary manner, nailing through to the rafters and using nails of sufficient length to penetrate the rafters to a depth of at least 1 inch. Apply roofing to wood sheathing in accordance with roofing manufacturers' specifications.



# Specification H

## Application of Simpson Insulating Decorative Tileboard

1. **General.** At least two men are required for efficient work, one to erect units and one to apply adhesive (when used) or to provide other assistance.

2. **Layout.** Where necessary a detailed layout drawn to scale shall be provided. In general, ceiling work shall be centered and the layout arranged so as to require a minimum amount of cutting and waste of material. Center lines shall be struck in the customary manner as required by layout.

3. **Cutting and Fitting.** Cutting shall be done with a Bevil Devil or a fine-toothed saw. For fitting around outlets, pipes, etc., a keyhole saw may be used.

4. **Nails, Clips and Adhesive.** Simpson Insulating Decorative Tileboard may be applied either to a continuous wood nailing base or to wood furring strips using nails or clips, or to smooth plaster or concrete using an adhesive.

4a. **Nails.** Where attachment is to be solely by nails, small headed fiberboard or insulating board nails (1½" long) shall be used. Do not drive lath nails or other similar nails through the surface or bevel of tile.

4b. **Clips.** Where clips are to be used, they shall be of copper or other rust-proof metal. Special clips suitable for the Type A tongue and groove joint are obtainable on the open market. Small-headed 2 penny blued lath nails shall be used with these clips.

4c. **Adhesive.** Where an adhesive is required, an approved acoustical or insulating board cement shall be used and shall be certified by the adhesive manufacturer to provide a permanently secure bond with cement or plaster surfaces.

### 5. Preparation of Base.

5a. **Continuous Wood Nailing Base.** Cover framing with a wood sub-base of No. 1 common Douglas Fir, West Coast Hemlock, or equivalent, matched 25/32 inch lumber to form a continuous, level nailing base. Plywood (¾" or more thick) may be substituted for the lumber if desired.

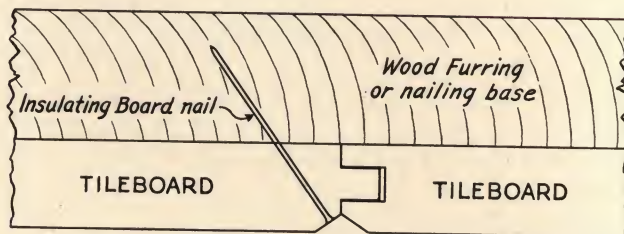
5b. **Furring Strips.** Provide 1x3 inch furring strips spaced to accommodate tile pattern but not over 16 inches on centers.

5c. **Preparation of Surfaces for Adhesive Application.** Surfaces shall be tested level and shall be solid. Any loose plaster shall be removed and the surface replastered. If plaster is generally unsound, tile shall be applied to furring strips.

5c (1). **Concrete Surfaces** shall be thoroughly dry and shall be washed with a solution consisting of 1 pound of zinc sulphate to 1 gallon of water. Surface shall be allowed to dry before applying tile.

5c (2). **Plaster Surfaces.** On new work, Simpson Insulating Decorative Tileboard may be applied directly to the brown coat, omitting the white or finish coat. If the plaster surface has been painted, a test sample shall be installed to determine whether or not the adhesive will bond satisfactorily to the paint, allowing at least 48 hours for the test. If the paint becomes soft or the tile becomes loose in this time, the paint shall be removed and the tile applied directly to plaster.

### 6. Installation.



Application of Tileboard by nailing

6a. **Conditioning Tileboard.** Condition all tileboard by opening packages and allowing to stand 24 hours in room to be treated for adjustment to atmospheric conditions.

6b. **Starting of Work.** On small areas work may be started in a corner and application proceed in both directions to the opposite sides, conforming in all cases to the requirements of the layout as specified in Paragraph 2. On large areas, work should be started in the center of the room or space, placing the first tile either with edges adjoining center line or with the center of tile on the center line of the ceiling, depending on the requirements of the layout.

6c. **Application by Nailing.** Drive nails at an angle through bevel of tile, using nails at the rate of 4 per 16"x16" tile or 6 per 16"x32" tile. Set nail heads even with surface of bevel. Drive up tile with a wood block to obtain a tight joint.

6d. **Application by Clips.** Where attachment is by clips, use a sufficient number of clips to hold tile firmly in place, but in no case less than 4 clips per 16"x16" tile or 6 clips per 16"x32" tile. Attach clips to tile before applying tile and nail through clip to furring or wood nailing base. Drive up tile with a wood block to obtain a tight joint.

6e. **Application with Adhesive.** Apply spots of adhesive 3 or 4 inches in diameter to the back surface near each corner with additional spots 8 to 10 inches apart over the area. Exercise care to prevent adhesive from appearing on the exposed finished side. Slide unit back and forth into position, finishing in final position with exposed surface level and true.

6f. **Successive units of tile** should be applied in a similar manner after inserting tongue or groove of tile to be applied in groove or tongue of tile in place, making sure that joint at bevel is tight.

6g. **Protecting Surface.** Care should be exercised to avoid soiling or damaging the surface of the tile. Mechanics handling tile should keep hands clean by washing frequently.

6h. **Mouldings.** Corners and intersections should be finished with suitable mouldings.



# *Specification* I

## Application of Simpson Insulating Decorative Plank

1. **Framing or Furring.** Framing or furring for plank may be either at right angles to, or parallel with, the plank. If the plank is parallel with framing or furring, long edges shall bear on framing or furring on centers corresponding to the width of plank used. Where plank is applied at right angles to framing or furring, the framing or furring shall be on 9-inch centers up to a height of 5 feet, and 12-or 16-inch centers above this height. Headers shall be inserted between framing members at the end of plank, to serve as a nailing base.

2a. **Nails and Nailing.** If application is by nailing, use 1½-inch galvanized or cadmium coated fiberboard nails which shall be driven at an angle through the bevel of plank on 6-inch centers into the framing or furring, except where nail heads are to be covered by mouldings, in which case nails may be driven through surface of plank. Nails shall be driven through ends of plank into framing members. Where nails are used and driven through the bevel, best results are obtained by working with the tongue side exposed rather than toward the groove side.

2b. **Clips.** If application is by clips, insert clips into tongue or groove, spaced 12" on centers, and nail clip to framing or furring. Insert succeeding plank into groove or tongue of plank in place and repeat procedure. Nails shall be driven through ends of plank into framing members.

3. **Application of Plank.** Start application of plank at corner or wall intersection. With a Stanley Fiber Board Plane, a Bevil Devil or fine-tooth saw, cut off with a square cut the bevel on one side of the starting plank and butt this edge against wall or corner. Nail through face of plank into framing or furring at corner, keeping nail head within ½ inch of edge of plank. Insert tongue or groove of next adjoining plank to be applied into groove or tongue of plank in place, and continue procedure to end of wall, cutting last plank to fit available space.

4. **Mouldings.** Exterior corners of plank shall be protected with corner beads. Intersections at ceilings and elsewhere as required by the design shall be finished with suitable mouldings.

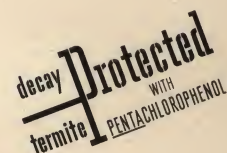
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Plant at Shelton, Washington

SALES DIVISION: 1010 White Bldg., Seattle 1, Washington



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# Simpson

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## SUSTAINED YIELD UNIT

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